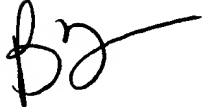


IN THE CLAIMS:

Claim 1. (Currently Amended) A component placement machine for placing components on printed circuit boards, the machine comprising:

a dry atmosphere component storage area, wherein the component storage area maintains a dry atmosphere without baking the components;

a component placement system for taking components from the component storage area and placing the components on the printed circuit boards;

 an enclosure surrounding the component storage area; and

a dry gas delivery system for delivery of a dry gas to the storage area to maintain the dry atmosphere and to prevent moisture from being absorbed by the components.

Claim 2. (Original) The machine of Claim 1, wherein the component storage area includes trays containing the components.

Claim 3. (Original) The machine of Claim 1, wherein the component storage area includes tapes containing the components.

Claim 4. (Original) The machine of Claim 1, wherein the component storage area includes sticks containing the components.

Claim 5. (Original) The machine of Claim 1, wherein the component storage area includes components in bulk storage.

Claim 6. (Currently Amended) A component placement machine for placing components on printed circuit boards, the machine comprising:

a component storage area, wherein the component storage area maintains a dry atmosphere without baking the components;

a component placement system for taking components from the component storage area and placing the components on the printed circuit boards;

an enclosure surrounding the component storage area; and

a dry gas delivery system for delivery of a dry gas to the storage area to maintain the dry atmosphere and to prevent moisture from being absorbed by the components, wherein a flow rate of the dry gas delivered to the storage area is controlled by a control system including a humidity sensor within the component storage area.

Claim 7. (Currently Amended) A component placement machine for placing components on printed circuit boards, the machine comprising:

a component storage area, wherein the component storage area maintains a dry atmosphere without baking the components;

a component placement system for taking components from the component storage area and placing the components on the printed circuit boards;

an enclosure surrounding the component storage area; and

a dry gas delivery system for delivery of a dry gas to the storage area to maintain the dry atmosphere and to prevent moisture from being absorbed by the components, wherein the dry gas is delivered to the component storage area at a first flow rate when the storage area is open and is delivered at a second flow rate when the storage area is closed.

Claim 8. (Original) The machine of Claim 7, wherein the first flow rate is higher than the second flow rate.



Claim 9. (Currently Amended) A method of mounting electronic components on a printed circuit board, the method comprising:

storing electronic components in a dry atmosphere in a storage area of a surface mount device placement machine, wherein the component storage area maintains a dry atmosphere without baking the components;

maintaining the dry atmosphere in the storage area by enclosing the storage area and injecting dry gas into the storage area;

removing the components from the storage area; and

mounting the components on a printed circuit board.

Claim 10. (Original) The method of Claim 9, wherein the storage area includes trays containing the components.

Claim 11. (Original) The method of Claim 9, wherein the storage area includes tapes containing the components.

Claim 12. (Original) The method of Claim 9, wherein the storage area includes sticks containing the components.

Claim 13. (Original) The method of Claim 9, wherein the storage area includes components in bulk storage.

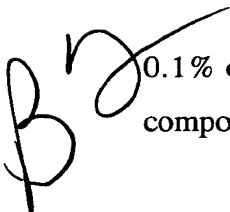
Claim 14. (Original) The method of Claim 9, wherein the dry atmosphere in the storage area is provided by delivering a dry gas to the storage area.



Claim 15. (Original) The method of Claim 14, wherein a flow rate of the dry gas delivered to the storage area is controlled by a control system including a humidity sensor within the storage area.

Claim 16. (Original) The method of Claim 14, wherein the dry gas is delivered to the storage area at a first flow rate when the storage area is open and is delivered at a second flow rate when the storage area is closed.

Claim 17. (Original) The method of Claim 16, wherein the first flow rate is higher than the second flow rate.

 Claim 18. (Original) The method of Claim 9, further comprising removing about 0.1% or more of the weight of the component by elimination of moisture while the components are stored in the storage area.

Claim 19. (Previously Added) The machine of Claim 1, wherein the components to be placed on the printed circuit boards are stored in the dry atmosphere within the machine and are not exposed to moisture during this storage time.

Claim 20. (Previously Added) The machine of Claim 1, further comprising a heater for heating the dry gas.

Claim 21. (Previously Added) The machine of Claim 1, further comprising a flow meter for regulating the flow of the dry gas to the storage area.

Claim 22. (Previously Added) The machine of Claim 1, further comprising a multiplicity of inlets to provide a consistent dry atmosphere around all of the components in the storage area.

Claim 23. (Previously Added) The machine of Claim 22, wherein the multiplicity of inlets includes a sprayer or a diffuser.

Claim 24. (Previously Added) The machine of Claim 1, wherein the components to be placed on the printed circuit boards maintain a dry atmosphere without heating.

Claim 25. (Previously Added) The machine of Claim 6, wherein the components to be placed on the printed circuit boards maintain a dry atmosphere without heating.

Claim 26. (Previously Added) The machine of Claim 7, further comprising a controller for automatically regulating the first flow rate and the second flow rate.

Claim 27. (Previously Added) The machine of Claim 7, further comprising intermittently turning on and off the flow rate when the relative humidity set point is reached.

Claim 28. (Previously Added) The machine of Claim 7, further comprising adjusting the flow rate to maintain a preset relative humidity point when the relative humidity set point is reached.

Claim 29. (Previously Added) The machine of Claim 7, wherein the components to be placed on the printed circuit boards maintain a dry atmosphere without heating.

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Concluded

Claim 30. (Previously Added) The method of Claim 9, wherein the step of maintaining the dry atmosphere is performed without heating the components.

Claim 31. (New) The machine of Claim 1, wherein the dry gas removes at least 0.1 % of the weight of the components.

Claim 32. (New) The machine of Claim 1, wherein the dry atmosphere is maintained without heating the dry gas above about 50°C.

Claim 33. (New) The machine of Claim 1, wherein the dry gas is nitrogen.

Claim 34. (New) The machine of Claim 6, wherein the dry gas removes at least 0.1 % of the weight of the components.

Claim 35. (New) The machine of Claim 6, wherein the dry atmosphere is maintained without heating the dry gas above about 50°C.

Claim 36. (New) The machine of Claim 6, wherein the dry gas is nitrogen.

Claim 37. (New) The machine of Claim 7, wherein the dry gas removes at least 0.1 % of the weight of the components.

Claim 38. (New) The machine of Claim 7, wherein the dry atmosphere is maintained without heating the dry gas above about 50°C.

B3 Claim 39. (New) The machine of Claim 7, wherein the dry gas is nitrogen.

Claim 40. (New) A method of handling electronic components for printed circuit boards, the method comprising:

receiving an electronic component in a sealed package;
removing the component from the sealed package;
placing the component into a dry atmosphere component storage area; and
maintaining the dry atmosphere in the storage area by enclosing the storage area and injecting a dry gas into the storage area.

Claim 41. (New) The method of Claim 40, further comprising removing the components from the storage area and mounting the components on a printed circuit board.

Claim 42. (New) The method of Claim 40, further comprising maintaining the dry gas atmosphere without heating the dry gas above about 50°C.

Claim 43. (New) The method of Claim 40, further comprising injecting the dry gas through a plurality of inlets.

Claim 44. (New) The method of Claim 40, further comprising removing excess moisture from the component without baking.

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